

# Rating criteria for toll road projects

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## Executive summary

CRISIL Ratings' framework<sup>1</sup> for analysing the credit quality of toll road projects encompasses the following risk factors:

- Project operating risk
- Project construction risk
- Financial risk
- Management risk

Projects in the operational phase face revenue risk. Revenue depends on traffic volume and the toll rate per unit of traffic. Forecasting traffic volume for an under-construction or newly operational road involves analysis of traffic studies including study on origin-destination traffic on existing comparable routes, and likelihood of users switching to the new road based on time and cost saved. For an operational road, historical variations in traffic are key. Linking of increase in toll rate to inflation typically mitigates the risk associated with increasing maintenance cost, and hence, is considered a positive.

Under-construction projects have their own set of challenges in terms of the risk of cost or time overruns. As the road usually does not generate toll revenue in this phase, the role of the sponsor in making good any shortfall is key.

The financial risk of a road project is driven by the projected debt service coverage ratio (DSCR), which indicates the extent of cushion available for debt servicing through the project life and helps ascertain if the structuring of debt is appropriate given the expected traffic variation and increase in toll. Most importantly, it helps establish the extent to which revenue may fall without affecting debt servicing. Roads with high DSCR usually enjoy higher ratings, all other things remaining constant. Liquidity buffers in toll roads cushion debt servicing during temporary disruptions in traffic or tolling.

The assessment of management risk is largely in line with CRISIL Ratings rating criteria for manufacturing and services companies, and focuses on integrity, risk appetite, and competence.

TOT (toll-operate-transfer) assessment is also done on the same basis as that of the operational toll road.

## Scope

The scope of the criteria applies to projects that charge toll from the users of the road stretch over the concession period. The document also covers CRISIL Ratings' approach to financial ratios used for analysing these projects.

## Project operating risk

The analysis takes into consideration critical factors such as projected traffic volume, toll revisions, cost savings for users, inbuilt flexibility in the concession agreement, and operational risks, to determine the overall commercial viability of the project. For projects not yet operational, construction risk is critical.

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<sup>1</sup> For accessing the previous published document, kindly refer to the following link:  
[https://www.crisilratings.com/content/dam/crisil/criteria\\_methodology/infrastructure/archive/CRISIL-Ratings-criteria-toll-road-projects-may2022.pdf](https://www.crisilratings.com/content/dam/crisil/criteria_methodology/infrastructure/archive/CRISIL-Ratings-criteria-toll-road-projects-may2022.pdf)

## **Traffic volume forecast**

The expected mix and volume of traffic on a proposed toll road is assessed by referring to origin-destination surveys conducted by reputed consultants and project advisors. The survey should adequately factor in the effect of seasonal variations. Principal considerations are an analysis of the traffic mix (based on the type of vehicle), origin, destination, purpose, and frequency of traffic.

A balanced mix of vehicles improves the commercial viability of the facility. A toll road used exclusively by freight vehicles (such as single-axle trucks) may put pressure on operations and maintenance (O&M) cost. Furthermore, freight traffic is sensitive to seasonal variations (such as increased flow in post-harvest agricultural operations), and traffic volume may diminish in times of industrial recession. Traffic volume is linked to the level of economic activity in the area. Factors such as the type of goods in transit, local and regional demand for these goods, and frequency of movement, are directly related to the stability and growth of industrial and economic activity in the vicinity of the toll road. The strength of the economic base of the principal origins and destinations of the toll road is reflected in the traffic volume forecast.

Creation of new roads does not mean existing road facilities cease to exist. Existing facilities could pose serious competition for limited-access toll roads. The scope of improvement in existing facilities due to the creation of a toll road can add to the uncertainty in forecasting traffic volume for the proposed project. In addition, CRISIL Ratings analyses the forecasts with reference to the network of feeder roads and distributaries which will channel traffic into the proposed toll road. Excessive dependence on a few feeder roads can adversely influence the movement of traffic on the toll road. In many instances, the traffic volume was highly overestimated, resulting in significant financial pressure on the operating entity subsequently. CRISIL Ratings conducts a sensitivity analysis on traffic volume while evaluating toll road projects.

For toll roads in the operational phase, the historical patterns of traffic on the same stretch form critical inputs into projecting future growth.

## **Toll rate revisions**

Pegging of revisions in toll charges to price index movements helps improve the overall project risk profile, as this tends to offset comparable increases in the price of inputs required for carrying out maintenance, operating, and administrative activities. Some concession agreements specify the precise amount and timing of toll revisions.

## **Estimating willingness of users to pay**

Willingness of users to pay for services is a critical assumption in assessing commercial viability. The demand forecast for the proposed toll road will materialise into a revenue stream only if the benefits accruing to users are in excess of the cost (toll charge). These benefits take the form of savings in:

- Vehicle operating cost (VOC),
- Transit time
- Distance covered

Typically toll roads offer high speed, superior surface quality, and high safety features which results in users benefiting in terms of significantly lower VOC (less fuel consumption and wear-and-tear). Revenue risk is considerably lower for toll roads that offer such benefits on a sustainable basis.

## Flexibility in concession agreement

Concession periods can be fixed or variable. In the latter case, the build-operate-transfer operator has the option to extend the concession period if the anticipated revenue stream does not materialise. This reduces the pressure of setting a high toll charge in the initial phase of operations, as compared to a fixed concession period model. This reduces the overall project risk compared with fixed-duration concession agreements.

## Project construction risk

Delays in project construction can seriously impair revenue generation and debt servicing. The factors considered by CRISIL Ratings in assessing project construction risks are:

- The profile of stakeholders and the financial structure of the special purpose vehicle (SPV) undertaking the construction
- Capability of the promoters in undertaking large multi-phased projects
- Financial strength of the sponsor and its ability to raise resources for the project
- Receipt of requisite approvals with respect to right of way (RoW), that is, land acquisition and associated rehabilitation and resettlement issues
- The reputation and track record, and financial position of the engineering, procurement, and construction (EPC) contractor
- Legal considerations in project construction documents
- Scheduling of construction
- Covenants for timely construction

The complexity of these factors will increase if the road passes through several states. The extent to which the government is involved in land acquisition and related activities will have a strong bearing on the risks associated with the project. In addition, lack of clarity in the legal arrangements between the financiers, equipment suppliers, and contractors can constrain timely completion.

On the other hand, enhancement projects like conversion of 4 lane to 6 lane stretches, have relatively low project construction risk compared to greenfield stretches as the ROW issues are likely to be lower and as the developer can toll the existing 4 lane stretch which reduces funding burden.

Penalties for late and bonuses for early completion, and their quantum in relation to the debt to be serviced over the period, form a part of CRISIL Ratings analysis. Any situation wherein the penalty payable by the project contractor is less than the liability towards the proposed debt holders is viewed unfavourably by CRISIL Ratings.

## Financial risk

### Projected financial performance and DSCR

CRISIL Ratings assesses the projected financial performance from the perspective of the project meeting its maintenance cost and debt obligation. Specific attention is given to assumptions (such as growth in traffic volume, flexibility of toll revisions and cost for maintenance and operations) underlying the cash flow projections. In addition,

alternative scenarios are created to assess the sensitivity of the project to adverse developments in the operating environment.

Based on the sensitivity of cash flow to the above factors, CRISIL Ratings assesses the ability of the project to meet its debt obligation (principal + interest). DSCR is a key indicator of the ability to service debt and is critical for assessing credit quality. The financial risk profile is primarily driven by the DSCR over the loan life of the project. It can be driven by minimum DSCR, average DSCR or a combination of both depending on variability of cashflows. The calculation shall solely be based on project cash flows, without considering parent support or debt service reserve account (DSRA).

**DSCR = (Profit after tax + Depreciation + Interest) / (Interest + Repayment)**

At times, the debt tenor is shorter when compared to the life of the asset and relies on refinance to meet the repayment obligation. In such situations, CRISIL Ratings factors in the refinancing risk while arriving at the rating.

### **Financial flexibility**

Financial flexibility is assessed with reference to dependence on a specific source of funds and ability of the promoters to generate additional resources. The possibility of seeking support from government agencies involved in the project is also considered. In the initial stage, the project may warrant some support from the promoters to service debt. CRISIL Ratings also examines the construction schedule and its implications on financial flexibility-taking on a large number of projects to construct usually saps funds and may impact the ability to support ongoing projects. Further, maintenance of a liquidity buffer usually acts as a cushion against temporary disruptions and falls in toll revenue.

### **Debt service reserve account (DSRA):**

Liquidity is maintained to mitigate risks pertaining to cashflow variability. Liquidity requirement is lower where structuring ensures that there is adequate time gap between the inflows and outflow. Liquidity requirement is directly proportional to the cash flow variability.

Projects maintain requisite liquidity buffer in the form of DSRA to ensure timely debt servicing. At times bank guarantee (BG) is used to replace cash DSRA. For such BGs to be construed as providing liquidity support, they need to have recourse to parent. CRISIL Ratings ascertains if parent maintains sufficient liquidity to cover the BG, to provide any liquidity benefit of BG to the infrastructure project.

### **Provisions for credit enhancement**

Credit enhancement provisions, such as securitisation of toll revenue and guarantees extended by members of the SPV, are examined for assessing the financial risk. The extent of credit enhancement by the promoters, both through specific covenants in the underlying agreement and financial support for servicing debt, are critical aspects of CRISIL Ratings risk assessment for toll road projects.

## **Management risk analysis**

CRISIL Ratings follows the standard criteria used for all manufacturing companies. This is presented in detail in the CRISIL Ratings publication, 'Rating criteria for manufacturing and services sector companies'.

## Conclusion

CRISIL Ratings criteria for rating toll roads covers the risks associated with both under-construction and operational toll road projects. For under-construction projects, the focus is on the receipt of necessary approvals and right of way and ensuring there are no time or cost overruns. The ability and track record of the sponsor to take care of such events is critically evaluated. In operational projects, the cushion of cash flow for debt servicing, which centrally depends on the revenue risk, is analysed. The traffic volume projections form a critical input. Inflation affects costs and toll increase (if linked), which form the inputs for calculating the DSCR. Liquidity buffers usually provide some respite in times of muted toll collection. An assessment of the management rounds off the analysis.



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